WorkKeys

Characteristics of the WorkKeys® Assessments

Applied Mathematics

Applied Technology

Business Writing

Listening

Locating Information

Observation

Readiness

Reading for Information

Teamwork

Writing



ACT endorses the *Code of Fair Testing Practices in Education* and the *Code of Professional Responsibilities in Educational Measurement*, guides to the conduct of those involved in educational testing. ACT is committed to ensuring that each of its testing programs upholds the guidelines in each *Code*. A copy of each *Code* may be obtained free of charge from ACT Customer Services (68), P.O. Box 1008, lowa City, IA 52243-1008, 319/337-1429.

Introduction

This booklet provides a quick reference showing the characteristics of the WorkKeys® skill levels and the skills required at each level. The following information is supplied for each assessment:

- Administration (e.g., computer, paper-and-pencil)
- Format (e.g., multiple-choice, constructed response)
- Testing time for paper-and-pencil administration (times may differ for computer-based administration)
- Number of items, prompts, or messages
- Skill level
- Characteristics of items or responses at each skill level
- Skills required at each level

This booklet is useful not only for identifying workplace skills required at each level, but also for helping teachers and trainers plan workplace skills instruction where skill gaps have occurred.

WorkKeys *Targets for Instruction* booklets are available to provide teachers, trainers, curriculum developers, and others involved in skills development with assistance in helping individuals improve their workplace skills, whether by integrating these skills into existing courses and programs or by developing additional curricula.

For a more extensive overview of WorkKeys, visit the WorkKeys section of the ACT website at **www.act.org** or call 1-800/WORKKEY (967-5539).

Applied Mathematics

Computer or Paper-and-Pencil/Multiple-Choice Response

33 Items

55 Minutes (Computer)

Level	Characteristics of Items	Skills
3	Translate easily from a word problem to a math equationAll needed information is presented in	Solve problems that require a single type of mathematics operation (addition, subtraction, multiplication, and division) using whole numbers
	logical order	■ Add or subtract negative numbers
	■ No extra information	■ Change numbers from one form to another using whole numbers, fractions, decimals, or percentages
		Convert simple money and time units (e.g., hours to minutes)
1	■ Information may be presented out of order	Solve problems that require one or two operations
4	■ May include extra, unnecessary information	■ Multiply negative numbers
	■ May include simple charts, diagrams, or graphs	■ Calculate averages, simple ratios, simple proportions, or rates using whole numbers and decimals
		Add commonly known fractions, decimals, or percentages (e.g., _, .75, 25%)
		Add three fractions that share a common denominator
		■ Multiply a mixed number by a whole number or decimal
		■ Put the information in the right order before performing calculations
5	■ Problems require several steps of logic and calculation (e.g., problem may involve completing	■ Decide what information, calculations, or unit conversions to use to solve the problem
	an order form by totaling the order and then computing tax)	■ Look up a formula and perform single-step conversions within or between systems of measurement
		■ Calculate using mixed units (e.g., 3.5 hours and 4 hours 30 minutes)
		■ Divide negative numbers
		Find the best deal using one- and two-step calculations and then comparing results
		Calculate perimeters and areas of basic shapes (rectangles and circles)
		Calculate percentage discounts or markups

Level	Characteristics of Items	Skills
6	May require considerable translation from verbal form to mathematical expression	Use fractions, negative numbers, ratios, percentages, or mixed numbers
	 Generally require considerable setup and involve multiple-step calculations 	■ Rearrange a formula before solving a problem
		■ Use two formulas to change from one unit to another within the same system of measurement
		Use two formulas to change from one unit in one system of measurement to a unit in another system of measurement
		Find mistakes in items that belong at Levels 3, 4, and 5
		Find the best deal and use the result for another calculation
		■ Find areas of basic shapes when it may be necessary to rearrange the formula, convert units of measurement in the calculations, or use the result in further calculations
		■ Find the volume of rectangular solids
		Calculate multiple rates
7	Content or format may be unusualInformation may be incomplete or implicit	Solve problems that include nonlinear functions and/or that involve more than one unknown
-	Problems often involve multiple steps of logic and calculation	Find mistakes in Level 6 items
		 Convert between systems of measurement that involve fractions, mixed numbers, decimals, and/or percentages
		 Calculate multiple areas and volumes of spheres, cylinders, or cones
		Set up and manipulate complex ratios or proportions
		Find the best deal when there are several choices
		■ Apply basic statistical concepts

Applied Technology

Computer or Paper-and-Pencil/Multiple-Choice Response

32 Items

55 Minutes (Computer)

Level	Characteristics of Items	Skills
3	 Straightforward One simple system that generally has two to five components Situation exhibits clear physical symptoms Situation usually has only one variable All needed information is present Only elementary technical terms are used 	 Identify how basic tools work Identify how simple machine parts work Apply basic principles to solve problems involving a simple system Solve basic problems Identify the clear physical symptom that points to the potential source of a problem Identify the best solution after eliminating clearly unsuitable possibilities
4	 Moderately complex because they can involve two or more simple systems that work together or one moderately complex system Systems may have up to ten components Situation can have one or two variables All needed information is present Extraneous information may be included Less common technical terms are defined 	 Understand the operation of moderately complex tools and diagnostic equipment Understand the operation of moderately complex machines and systems Apply less obvious basic principles to solve problems within physical systems Solve moderate problems Eliminate physical symptoms that do not point to the source of a problem, disregarding extraneous information Identify the best solution after eliminating other unsuitable possibilities
5	 Moderately complex or advanced, involving two or more simple tools or systems that affect each other or a complex system that includes several components Systems perform somewhat complex operations and generally have more than ten components May involve two or three variables and may require use of technical knowledge Extraneous information is often included Technical terms may be explicitly defined or their meaning can be implicit in context and illustrations 	 Understand the operation of moderately complex tools and diagnostic equipment, choosing the best tool for the task Understand the operation of complex machines and systems Apply two or more principles of technology as they interact in moderately complex systems Solve moderate and advanced problems Eliminate physical symptoms that do not lead to the source of a problem by disregarding extraneous information; use clues to find the source of a problem Identify the best solution after eliminating other unsuitable possibilities

Level	Characteristics of Items	Skills
6	Advanced, involving complex tools or systems with more than ten components	Understand the operation of complex tools and diagnostic equipment, choosing the best tool for
	Include large amounts of information and present a variety of possible problem sources that are subtle and difficult to diagnose	the task Understand the operation of complex machines and their components
	Require the use of technical knowledgeContain considerable extraneous information	Apply two or more principles of technology as they interact in complex systems
	 Technical terms may be explicitly defined or their meaning may be implicit in complex context and illustrations 	Solve advanced problems where a variety of mechanical, electrical, thermal, or fluid faults could be the reason for the problem
		■ Eliminate physical symptoms that do not lead to the source of a problem by disregarding extraneous information; use less obvious clues to find the source of a problem
		■ Test possible hypotheses to ensure the problem is diagnosed correctly and the best solution is found

Business Writing

Computer/Constructed Response 30 Minutes

1 Prompt

Level	Characteristics of Responses
	In all cases, examinees read a written prompt and then write their response. Examinees with extremely limited reading skills may be unable to produce a response that is sufficiently on topic to receive a valid <i>Business Writing</i> score.
1	■ The writing is in English, but is difficult to understand because of a large number of errors
"	■ The majority of the sentence structures are incorrect
	 A large number of major grammatical, mechanical, and word usage errors interfere with communication
	 Rude or overly casual language, tone, and style may be inconsistent with standard business English
	No organization is evident
	An attempt is made to communicate ideas, but there is little or no development or support
	■ The writing is generally understandable
	Some correct sentence structures are used, although sentences may be simple or repetitive
	■ Enough correct mechanics, word usage, and grammar are used to convey an idea, although many errors may somewhat interfere with comprehension
	Rude or overly casual language, tone, and style may be inconsistent with standard business English
	Some organization is evident but with an unclear focus and few or no transitions
	■ The ideas presented are generally understandable but are not expanded
	■ The writing is clear with some errors
3	Most of the sentences are complete, and some variety and complexity are attempted
	Few mechanical, grammatical, and word usage errors occur so that the response is adequately conveyed but may be repetitive; the spelling is generally correct
	Style and tone are generally consistent with standard business English; the writing may have somewhat casual language but does not contain slang or rude language
	Some organization is evident, but the writing may lose focus at some points; transitions are simple
	Ideas are adequately developed, but they may be limited in depth and thoroughness; supporting examples tend to be general and details are relevant, but they may be repetitive

Level	Characteristics of Responses	
1	■ The writing is clear with almost no errors	
4	 All sentences are complete and they are generally varied in length and complexity 	
	■ The few mechanical, grammatical, and/or word usage errors that occur do not interfere with communication; word usage is precise and varied	
	Style, tone, and language are consistent with standard business English; the writing contains no rude or overly casual language	
	■ The writing is organized and maintains consistent focus, but may lack clarity; transitions are effective, if not especially varied	
	■ Most of the ideas are well developed with relevant supporting examples and details	
	■ The writing is clear, precise, and generally free of errors	
5	■ The writing communicates in a professional, courteous manner	
	 Correct, complete sentences are used and are varied in length and complexity 	
	Few or no errors in grammar and/or mechanics occur, and any present do not interfere with communication; word usage shows considerable precision and variety	
	Style, tone, and language are consistent with standard business English; the writing contains no rude or overly casual language	
	The organization is smooth and maintains clear and consistent focus from beginning to end; transitions are varied and effective, creating a seamless flow of ideas	
	■ The ideas are well developed and elaborated on with relevant supporting examples and specific details; the writing shows insight, perception, and depth	

Listening

Audio Presentation/Paper-and-Pencil/Constructed Response 40 Minutes

6 Messages

Level	Characteristics of Responses	
	In all cases, examinees listen to audio messages and then write down the information they have heard in order to convey it to someone else. While writing style and mechanics do not affect the <i>Listening</i> score, examinees with limited writing skills may be unable to express themselves well enough in writing to receive a valid <i>Listening</i> score.	
4	■ At least one piece of primary information is given that is correct	
'	■ The gist of the situation (a minimal grasp of the message) or clues to sources of further information are given	
2	 One or more pieces of primary information are given and are correct, but the message may also include primary information that is incorrect 	
	■ A correct sketch of the situation is given, including both the gist of the situation and clues to sources of further information	
3	Most of the primary information is given and it is correct, but the message may be missing one or two pieces of primary information	
	■ Correctly show the relationships among the pieces of primary information so that the reader can take appropriate action without getting more information	
1	■ All primary information is given and it is correct	
4	Supporting information is included that is either correct or, if incorrect, does not interfere with the central message	
	■ Correctly show the relationships among the pieces of primary information	
5	All primary information is given and is correct	
3	 Accurate supporting information is given to convey insight into the particular situation that the message represents, which may include information regarding the speaker's tone or attitude 	
	Accurately convey the relationships among the pieces of information in the message	

Locating Information

Computer or Paper-and-Pencil/Multiple-Choice Response

38 Items

55 Minutes (Computer)

Level	Characteristics of Graphics	Skills
3	 Elementary workplace graphics such as simple order forms, bar graphs, tables, flowcharts, maps, instrument gauges, or floor plans One graphic used at a time 	 Find one or two pieces of information in a graphic Fill in one or two pieces of information that are missing from a graphic
4	 Straightforward workplace graphics such as basic order forms, diagrams, line graphs, tables, flowcharts, instrument gauges, or maps One or more graphics are used at a time 	 Find several pieces of information in one or more graphics Understand how graphics are related to each other Summarize information from one or more straightforward graphics Identify trends shown in one or more straightforward graphics Compare information and trends shown in one or more straightforward graphics
5	 Complicated workplace graphics, such as detailed forms, tables, graphs, diagrams, maps, or instrument gauges Graphics may have less common formats One or more graphics are used at a time 	 Sort through distracting information Summarize information from one or more detailed graphics Identify trends shown in one or more detailed or complicated graphics Compare information and trends from one or more complicated graphics
6	 Very complicated and detailed graphs, charts, tables, forms, maps, and diagrams Graphics contain large amounts of information and may have challenging formats One or more graphics are used at a time Connections between graphics may be subtle 	 Draw conclusions based on one complicated graphic or several related graphics Apply information from one or more complicated graphics to specific situations Use the information to make decisions

Observation

Video Presentation/Paper-and-Pencil/Multiple-Choice Response 60 Minutes

36 Items

Level	Characteristics of Situations	Skills
3	 Straightforward procedure with a few simple components Task performed in a routine, predictable, and deliberate manner No extra details or distractions Obvious hints or reminders prompt what task needs to be done, how and when it should be completed, and whether it is done correctly 	 Remember a few strongly prompted details Pay attention to the basic parts of a straightforward procedure Remain aware of instructions and reminders that give strong cues Concentrate on the important elements of a procedure
4	 Straightforward procedure involving more than one component A few extra details and distractions are present Procedure is direct, clearly explained, and easy to follow Attention is directed toward important details 	 Select and pay attention to the components of a straightforward procedure with some details that are hard to notice Remember a few important details that are reinforced Remain focused on relevant details when there are some extra details or distractions
5	 Work procedures include several tasks that may occur more quickly and at the same time Tasks often interact with each other and may change from one situation to another Several important details are presented, most of which are not explicitly cued Several extra details or distractions may make it difficult to pay attention to the important points 	 Focus attention on and remember several important details from a complex set of events that may occur at the same time Maintain attention to significant details with little prompting Remember relevant aspects of the information presented Remember several important details about unique material Ignore irrelevant background information or distractions and pay attention only to important points
6	 Complicated work procedures Tasks contain a number of extra details and often involve unusual elements Tasks are performed quickly and have a number of steps, but none are highlighted and only some are discussed directly or explained There are strong distractions that must be ignored 	 Recognize a number of steps that are presented at the same time Notice and remember several details that are relevant to the procedure Visualize how a step fits into the procedure even if there are not many hints or reminders Disregard irrelevant information Interpret if-then and cause-and-effect relationships that affect tasks Make predictions, comparisons, and evaluations, and visualize how a detail fits into a procedure

Readiness

Paper-and-Pencil/Multiple-Choice Response 40 Minutes

20 Reading Items and 15 Math Items

Level	Characteristics of Items	
	Readiness is a self-scored screening instrument for the two most often used WorkKeys assessments: Applied Mathematics and Reading for Information. Readiness is designed to help determine whether examinees are ready to take operational WorkKeys tests or should be advised to pursue further training first. Since most WorkKeys tests require basic reading skills, Readiness can be used as a screening tool for all WorkKeys assessments.	
Pre3	(See Reading for Information and Applied Mathematics for more information on levels.)	
3	(See Reading for Information and Applied Mathematics for more information on levels.)	
4	(See Reading for Information and Applied Mathematics for more information on levels.)	

Reading for Information

Computer or Paper-and-Pencil/Multiple-Choice Response

33 Items

55 Minutes (Computer)

Level	Characteristics of Reading Materials and Items	Skills
3	 Reading materials include basic company policies, procedures, and announcements Reading materials are short and simple, with no extra information Reading materials tell readers what they should do All needed information is stated clearly and directly Items focus on the main points of the passages Wording of the questions and answers is similar or identical to the wording used in the reading materials 	 Identify main ideas and clearly stated details Choose the correct meaning of a word that is clearly defined in the reading Choose the correct meaning of common, everyday and workplace words Choose when to perform each step in a short series of steps Apply instructions to a situation that is the same as the one in the reading materials
4	 Reading materials include company policies, procedures, and notices Reading materials are straightforward, but have longer sentences and contain a number of details Reading materials use common words, but do have some harder words, too Reading materials describe procedures that include several steps When following the procedures, individuals must think about changing conditions that affect what they should do Questions and answers are often paraphrased from the passage 	 Identify important details that may not be clearly stated Use the reading material to figure out the meaning of words that are not defined Apply instructions with several steps to a situation that is the same as the situation in the reading materials Choose what to do when changing conditions call for a different action (follow directions that include "if-then" statements)
5	 Policies, procedures, and announcements include all of the information needed to finish a task Information is stated clearly and directly, but the materials have many details Materials also include jargon, technical terms, acronyms, or words that have several meanings Application of information given in the passage to a situation that is not specifically described in the passage There are several considerations to be taken into account in order to choose the correct actions 	 Figure out the correct meaning of a word based on how the word is used Identify the correct meaning of an acronym that is defined in the document Identify the paraphrased definition of a technical term or jargon that is defined in the document Apply technical terms and jargon and relate them to stated situations Apply straightforward instructions to a new situation that is similar to the one described in the material Apply complex instructions that include conditionals to situations described in the materials

Level	Characteristics of Reading Materials and Items	Skills
6	 Reading materials include elaborate procedures, complicated information, and legal regulations found in all kinds of workplace documents Complicated sentences with difficult words, jargon, and technical terms Most of the information needed to answer the items is not clearly stated 	 Identify implied details Use technical terms and jargon in new situations Figure out the less common meaning of a word based on the context Apply complicated instructions to new situations Figure out the principles behind policies, rules, and procedures Apply general principles from the materials to similar and new situations Explain the rationale behind a procedure, policy, or communication
7	 Very complex reading materials Information includes a lot of details Complicated concepts Difficult vocabulary Unusual jargon and technical terms are used, but not defined Writing often lacks clarity and direction Readers must draw conclusions from some parts of the reading and apply them to other parts 	 Figure out the definitions of difficult, uncommon words based on how they are used Figure out the meaning of jargon or technical terms based on how they are used Figure out the general principles behind the policies and apply them to situations that are quite different from any described in the materials

Teamwork

Video Presentation/Paper-and-Pencil/Multiple-Choice Response

36 Items

2 Parts, 32 Minutes Each

Level	Characteristics of Situations	Skills
3	 Simple work situations involve a single, recognizable problem Team goals and consequences are clear Resources needed are readily available Team members get along well 	 Recognize team goals Show acceptance of team goals by working cooperatively with other team members Identify problems and their causes Persevere in solving problems Accept membership in the team Demonstrate a positive attitude, respond appropriately to praise, and give positive feedback Display trust in other team members Be dependable in completing tasks correctly and on time
4	 Work situations involve several problems or sources of difficulty Team goals and consequences are not altogether clear Resources may be limited Team members have competing concerns 	 Use prioritization and time management skills to effectively and efficiently accomplish tasks Exhibit creative thinking when solving problems or accomplishing tasks Show a commitment to quality Show sensitivity to customer needs Practice followership by taking direction and responding appropriately to negative feedback Demonstrate respect for other team members Show an appreciation for diversity among team members
5	 Work situations involve many subtle and competing problems Team goals and consequences are unclear Resources are limited Team relationships are ambiguous 	 Exhibit good decision-making and analyzing skills Delegate responsibility Show leadership by both assuming the directive role and giving that role to others Empower other team members Display initiative Be properly assertive in explaining personal convictions honestly and with sincerity

Level	Characteristics of Situations	Skills
sources of difficulty Team goals and/or co		Perform structuring and process planning by organizing the various parts of a problem or task, sequencing them, and determining who will be responsible for them
	■ Team relationships are unpredictable	 Create and revise team goals by shifting from one objective to another, depending on circumstances
		Integrate or synthesize multiple task components into a coherent whole
		Be flexible in the roles they play on the team using active listening, questioning, and directive behaviors
		Resolve conflict among team members and give negative feedback in a constructive manner
		Build team cohesiveness by helping to create a feeling of unity within the team

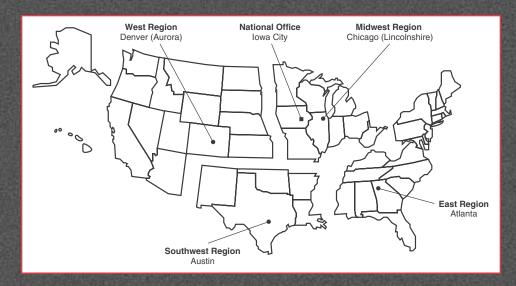
Audio Presentation/Paper-and-Pencil/Constructed Response 40 Minutes

6 Messages

Level	Characteristics of Responses
	In all cases, examinees listen to audio messages and then write down the information they have heard in order to convey it to someone else. Examinees with extremely limited listening skills may be unable to produce a response that is sufficiently on topic to receive a valid <i>Writing</i> score.
4	■ Messages are very difficult to understand because of numerous errors
	■ The majority of the sentence structures are incorrect
	■ Major mechanical, grammatical, and word usage errors are numerous
	 Rude or overly casual language not consistent with standard business English is used
	■ No organization is evident
	Messages are generally understandable
	 Some correct sentence structures are used, although some sentences may require further clarification
	Writing has enough correct mechanics, word usage, and grammar to convey an idea, although many errors may interfere with comprehension
	 Casual language or slang may be used rather than standard business English
	 Although topical information is used, writing lacks connections that would make it flow easily
	■ Messages are clear
3	■ The majority of the sentences are complete
	Writing has few mechanical, grammatical, and word usage errors so the message is adequately conveyed
	■ The language may be more casual than standard business English but never contains slang or is rude
	Some organization is evident, but the writing may have inappropriate transitions and/or some information out of logical order

Level	Characteristics of Responses
4	■ Messages are clear, with almost no errors
	■ All sentences are complete
	■ There are very few mechanical, grammatical, and/or word usage errors
	The tone is professional and consistent with standard business English most of the time
	■ The writing style is adequate but may be somewhat choppy
	 Good organization is demonstrated with only minor transition or logical order problems
_	■ Messages are clear, precise, and free of errors
5	Correct, complete sentences are used and are varied, smooth, and polished
	■ There are no mechanical, grammatical, or word usage errors
	A businesslike, courteous, and professional tone is maintained with language that is highly consistent with standard business English
	■ The writing style flows smoothly
	■ The information is presented in a logical order; e.g., the writer may rearrange the information so that the important part comes first

To learn more about WorkKeys contact the ACT Regional Field Office nearest you.



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